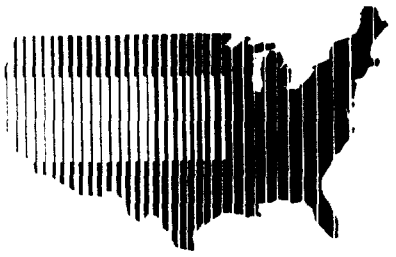

LAND MOBILE COMMUNICATIONS COUNCIL

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Mr. Dan Phythyon, Acting Chief
Wireless Telecommunications Bureau
Federal Communications Commission
2025 M Street, N.W., Room 5002
Washington, D.C. 200554

Re: PR Docket No. 92-235
(Refarming)

Dear Mr. Phythyon:

In response to the Commission's request, the Land Mobile Communications Council (LMCC) hereby submits its plan for low power and full power operations on the channels previously known as the 450-470 MHz low power offsets. Such a plan is necessary to move forward as the Commission's refarming decisions have established that a portion of these channels will transition to full power use, with a portion of the channels dedicated to support low power operations. As discussed more fully below, the Commission has requested that frequency coordinators provide a consensus plan that defines operations and the specific channels on which they are allowed. As an umbrella organization including membership of the frequency coordinators with responsibilities in this band, LMCC urges the Commission to endorse its plan and move forward expeditiously to provide end users the benefits which refarming can provide once full implementation is]allowed.

LMCC has reached a consensus which accommodates to the extent possible a variety of low power requirements, as well as the need for additional channels for full power operations. LMCC would be the first to admit, however, that a given user may find that this consensus does not meet all of his or her expectations. In essence, additional spectrum is required to meet fully all the needs to everyone's satisfaction. Given the absence of such an option at this time, however, LMCC has no choice but to reach some degree of compromise among the variety of needs in developing this plan which helps optimize the best of a congested situation.

Summary of the LMCC Plan:

In summary, the LMCC plan establishes 50 of the 450-470 MHz band "offsets" as low power coordinated channels, 10 as coordinated non-voice channels and 25 as low power uncoordinated channels in the Industrial/Business pool. Also, the 5 central station alarm "offset" channels would carry a low power designation. In addition, the plan recommends that any of the new 6.25 kHz "drop in" channels which are directly adjacent to the designated low power offsets be similarly designated. LMCC has also incorporated a recommendation from the public safety community that 14 of the offsets in the public safety pool be designated for low power operation. As addressed more fully later in this document, LMCC's plan would provide users a variety of implementation and regulatory status options. For example, existing low power users could move to designated low power channels or remain on channels ultimately used for full power operation.

Finally, LMCC believes that users, multiple coordinators, and equipment manufacturers would benefit from some degree of certainty surrounding this plan. LMCC therefore recommends the Commission endorse the plan by incorporating the various power, height and use designations applicable to the different frequencies into the rules. We believe this will allow the Commission to lift the freeze and authorize full power systems on remaining 450-470 MHz "offset" channels expeditiously with confidence that a home exists for low power operations. In this regard, we note that the LMCC recommended plan is being submitted approximately four months ahead of the Commission's targeted requirement of October 17. [1] Therefore, we also urge the Commission to advance by 4 months its date when applications for full power operations on the remaining "offset" channels can be accepted by the Commission. In its Second Report and Order, the Commission decided it would provide low power users a 7 month period within which to move to the designated low power channels or decide to share with new full power users on the remaining "offsets." This decision was based on previous recommendations by LMCC and its members. LMCC's early submission of this low power plan should allow the Commission to accept applications for full power operations on the remaining 450-470 MHz "offset channels" beginning in January 1998, i.e., 7 months from today. [2]

LMCC believes that to the extent possible in the shared environment, its plan allows regulation to match market needs, provides higher quality of service for users,

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[1] The Second Report and Order in PR Docket No. 92-235 required coordinators to submit the plan for low power within 6 months of publication in the Federal Register. That publication occurred on April 17.

[2] One LMCC member, the American Trucking Associations (ATA), does not support the January 19, 1998, date for acceptance of full power applications on the remaining former offset channels.

minimizes conflicts between low power/full power systems and improves overall spectrum efficiency.

Rationale Behind The LMCC Plan:

In developing this recommendation, it was necessary to understand the environment which already exists for low power users. Today the 450-470 MHz band offset channels support thousands of these low power users with 25 kHz equipment. These existing systems are on channels which are spaced 12.5 kHz from the long-standing "primary" full power channels, and only 6.25 kHz from the new 6.25 kHz drop-in channels created in the Commission's refarming proceeding. Within the low power category, a wide variety of operations are deployed and different coordination techniques have been used, each responsive to particular types of low power use.

For example, industrial operations, manufacturing plants, and some businesses use the low power channels for in plant and on campus communications, including both voice and remote control of heavy machinery. Also, these channels support traffic control in highway construction corridors. Site-specific coordination provides these users some degree of interference protection in the shared spectrum environment prevalent throughout the 450-470 MHz band. Because industrial/manufacturing complexes often provide a hostile radio environment, these low power users have recommended that the current 2 watt limit be increased slightly to provide more reliable communications.

Other businesses, such as the construction trades, deploy the channels for operations which are more itinerant in nature and for which site-specific coordination would provide little benefit to the user. In addition, many small businesses deploying radios for on-site use are desperate to minimize costs, including those resulting from regulatory requirements.

In addition, a number of the offsets in the Industrial/Business pool which were previously assigned to the Business Radio Service are licensed by medical facilities such as hospitals for devices which monitor patients with heart problems. While critical in nature, today these medical systems operate on a non-coordinated basis and coexist with numerous co-channel 2 watt low power operations. Discussions with manufacturers of these medical devices indicate the systems operate at even lower powers, e.g., less than 10 milliwatts, providing transmitters a communications range up to approximately 35 feet.

Finally, while full power operations are a higher priority in public safety services, low power operations provide public safety users valuable communications for surveillance, tracking and other uses. Therefore, LMCC has incorporated into its plan recommendations of the Public Safety Communications Council for dedicated low power channels in the Public Safety Pool.

In developing a low power plan to move forward with refarming, the LMCC is guided by the Commission's request in its Second Report and Order in the Refarming proceeding, released March 12, 1997. The Commission decided that it would give coordinators in each of the two pools an opportunity to develop a consensus plan for low power operations which provides a compromise solution between low and full power operations. Such a compromise is necessary as the demands for both low and full power operations exceed the channels available and therefore require that the channels be shared among users. To the degree low power and full power operations can be licensed on separate channels, low power users will experience less interference and a higher grade of service. LMCC's plan separates co-channel low and full power users and going forward, would provide for low power use on new adjacent 6.25 kHz drop-in channels created by the Commission's refarming proceeding.

Ideally, low power operations would be totally separate from full power uses on the previously designated "primary channels" 12.5 kHz removed as well. However, in the 450-470 MHz band, that would require full power users already operating on "primary" channels to move. These channels support many users who have complex and extensive full power systems whose movement would further delay implementation of refarming. Also, LMCC estimates such moves would incur costs of approximately $1 billion per MHz. Finally, the Commission as yet has identified no vacant new spectrum to reaccommodate existing full power users or to accommodate additional full power users who otherwise could operate on these channels. For these reasons, LMCC believes separation of low power operations from incumbent full power operations on the adjacent "primary" channels is not possible at this time.

Details of the LMCC Plan

As noted above, a variety of uses exist for low power operations. Therefore, LMCC has developed the following recommended plan responsive to these requirements to the degree possible in this shared environment. Lists of specific channels for the various categories of low power use are attached as Appendices A through E.

I. Recommendations for Industrial/Business Pool:

1. Specify 50 — 12.5 kHz 450-470 MHz channel pairs for low power coordinated use:

— Target Market: Those low power users who need some degree of protection at a given site; e.g.; campus environments, manufacturing plants, etc.

— Maximum power of 5 watts ERP mobile/portable, 20 watts ERP base stations with maximum fixed station antenna height of 23 km (75 feet) above ground level. As shown in Appendix A, 10 of these 50 channels are

so designated on a nationwide basis with the remaining 40 channels designated for coordinated low power use within a 80 km (50 mile) radius of the top 100 urban areas. For sites beyond 80 km (50 miles) outside the top urban areas, full power is allowed on the 40 channels in accordance with frequency coordination procedures being finalized to minimize interference to both low and full power operations, e.g., contour analysis. This gives low power "protection" from full power but allows full power operation in less urbanized areas without the need for waivers.

— Site specific coordination and licensing required for both low and full power operations.

— Specific channels for this category are listed in Appendix A.

2. Specify 10 — 12.5 kHz 450-470 channel pairs for low power <u>non-voice coordinated</u> use nationwide:

— Target Market: Those low power users employing wireless non-voice transmitters for remote control of medical devices, cranes, robotics, etc. who need protection at a given site; and whose operations could suffer significant safety hazards if shared with voice operations. To maximize spectrum use, however, voice operations could be allowed on a secondary non-interference coordinated basis; any such use would be subject to removal should interference to non-voice operations occur.

— Maximum power of 2 watts ERP. Maximum antenna height of 7 meters (20 feet) above ground level for any fixed station.

— Site specific coordination and licensing are required.

— Specific channels for this category are listed in Appendix B.

3. Maintain a 2 watt power limit on the 5 "offset" channel pairs designated for central station alarm use.

— Specific channels for this category are listed in Appendix C.

4. Specify 25 — 12.5 kHz 450-470 channel pairs for low power non-coordinated itinerant use nationwide:

— Target Market: small business use, e.g., electricians, plumbers, others needing itinerant on-site communications or able to share with these users.

— Maximum power of 2 watts ERP. Maximum antenna height of 7 meters (20 feet) above ground level for any fixed station.

— New type acceptance grants for transmitters on these channels would specify that units must be capable of operation only on these 25 low power uncoordinated channels and on other UHF "dot/star" channels (464.5/469.5, 464.55/469.55, 467.85, 467.875, 467.9 and 467.925 MHz already used for similar low power and /or itinerant operations. This will help protect full power coordinated channels from additional co-channel conflicts that might occur from uncoordinated users.

— Licensing is required, but coordination is not required.

— Specific channels for this category are listed in Appendix D.

5. Provide the same low power designations on the 6.25 kHz channels immediately above and below the 12.5 kHz channels chosen for all four of the above-referenced low power categories.

6. Existing secondary licensees on the current 12.5 kHz 450-470 MHz offsets would have several options:

— Locate on one of the designated coordinated low power channels on a co-primary shared basis with other co-channel low power users. (Some licensees would have to change frequency, others would not.) Those employing 12.5 kHz equipment would also be co-primary with respect to full power users on adjacent channels 12.5 kHz removed. Those continuing to use 25 kHz equipment would remain secondary with respect to full power users on adjacent channels 12.5 kHz removed.

— Some low power licensees may also want to seek a protected service area (PSA) designation on one of the coordinated low power channels if/when the Commission provides that option. Given current channel usage, a PSA designation will not be possible for all existing licensees.

— Locate on one of the itinerant low power channels on a co-primary shared basis with respect to other co-channel itinerant users. Neither PSA's nor protection from full power operations on adjacent channels 12.5 kHz removed would be an option as there is no coordination for itinerant channels.

— Stay on currently licensed offset channel(s) on a secondary basis. Unless the current channel is one of the channels chosen for (1) or (2) above, the

low power licensee choosing this option would risk increased interference from new full power users added to the channel.

II. Recommendations for Public Safety Pool (Based on PSCC Input)

1. Specify 14 — 12.5 kHz 450-470 (offset) channel pairs for low power coordinated use nationwide.

— Maximum power of 5 watts ERP for all stations. Maximum antenna height of 20 feet (7 meters) above ground level for any fixed station.

— Site specific and station class specific coordination and licensing required.

— Specific channels in this category are listed in Appendix E.

2. Existing licensees on public safety low power secondary systems are advised to consider transition to one of the designated low power channels as soon as possible because the remaining 12.5 (offset) channel pairs in the public safety pool are now available for licensing of full power stations.

Summary

The LMCC plan designates a total of 90 of the 450-470 MHz offset channel pairs in the Industrial/Business pool and 14 channel pairs in the Public Safety pool specifically for low power operations and recommends the Commission incorporate this plan into the rules. Applications for full power operations on the remaining channel pairs which previously comprised a portion of the Industrial/Business or Public Safety 450-470 MHz "offset" channels would be accepted by the Commission beginning in January 1998 under the LMCC plan.

We also note that under the LMCC plan, users of ultra-low power on-site medical telemetry operations have several options. They could continue to operate on the 25 business channels designated for itinerant use, similar to their current shared uncoordinated operations on business channels today. In addition, the 10 coordinated non-voice low power channels may provide an option with even greater protection than these users have traditionally obtained. While requiring coexistence with somewhat higher powered operations, these users may also be able to share the 50 designated low power channels as those channels are licensed on a coordinated basis. Finally, we note that in its Memorandum Opinion and Order released on December 30, 1996, the Commission provided medical telemetry operations access to 10 channel pairs also used for airport support operations. LMCC nevertheless was unable to develop a rational plan at 450-470 MHz which meets the full expectations of representatives for the ultra-low power medical telemetry community. Those representatives have indicated a need for 2.5 MHz of contiguous low power channels with no interwoven full power operations and

preferably not even 2-5 watt co-channel industrial low power operations, which would require massive relocations. In LMCC's view, fully accommodating the expectations of the medical community representatives will require allocation of additional new vacant spectrum. LMCC supports the allocation of such new spectrum, tentatively including a reasonable portion to support medical telemetry operations.

Should you have questions concerning this plan, please contact Donald Vasek of the Personal Communications Industry Association (PCIA), who chaired the LMCC refarming task force. Mr. Vasek may be reached by phone at 703-739-0300, extension 3015, or by fax at 703-836-1608.

Regards,

Larry Miller
President

Attachments: Frequency List Appendices A, B, C, D and E.

APPENDIX A

Industrial/Business

50 Channel, Coordinated, Low Power Pool

451.1875	456.1875	452.1125	457.1125
451.2375	456.2375*	452.1375	457.1375
451.2875	456.2875	452.1625	457.1625
451.3125	456.3125	452.1875	457.1875
451.3375	456.3375*	452.2875	457.2875
451.3625	456.3625	452.3125	457.3125*
451.3875	456.3875	452.4125	457.4125*
451.4125	456.4125	452.4875	457.4875
451.4375	456.4375*	452.5125	457.5125*
451.4625	456.4625	452.5375	457.5375
451.4875	456.4875	452.6375	457.6375
451.5125	456.5125	452.6625	457.6625
451.5375	456.5375*	452.6875	457.6875
451.5625	456.5625	452.7125	457.7125
451.5875	456.5875	452.7625	457.7625*
451.6125	456.6125	452.7875	457.7875
451.6375	456.6375*	452.8125	457.8125
451.6625	456.6625	452.8375	452.8375
451.6875	456.6875	452.8625	457.8625*
451.7125	456.7125	452.8875	457.8875
451.7375	456.7375	452.9875	457.9875
451.7625	456.7625	462.1875	467.1875
452.0375	457.0375	462.4625	467.4625
452.0625	457.0625	462.4875	467.4875
452.0875	457.0875	462.5125	467.5125

* Indicates frequency pairs that are available nationwide

In addition to the channels listed above, the same low power designations apply to the channels 6.25 kHz immediately above and below these channels.

APPENDIX B

Industrial/Business

10 Channel, Non-Voice, Coordinated Low Power Pool

462.2125	467.2125
462.2375	467.2375
462.2625	467.2625
462.2875	467.2875
462.3125	467.3125
462.3375	467.3375
462.3625	467.3625
462.3875	467.3875
462.4125	467.4125
462.4375	467.4375

In addition to the channels listed above, the same low power designations apply to the channels 6.25 kHz immediately above and below these channels.

APPENDIX C

Industrial/Business

5 Channel, Central Station Alarm, Low Power Pool

460.9125	465.9125
460.9375	465.9375
460.9625	465.9625
460.9875	465.9875
461.0125	465.0125

In addition to the channels listed above, the same low power designations apply to the channels 6.25 kHz immediately above and below these channels.

APPENDIX D

Industrial/Business

25 Channel, Uncoordinated, Low Power Pool

461.0375	466.0375
461.0625	466.0625
461.0875	466.0875
461.1125	466.1125
461.1375	466.1375
461.1625	466.1625
461.1875	466.1875
461.2125	466.2125
461.2375	466.2375
461.2625	466.2625
461.2875	466.2875
461.3125	466.3125
461.3375	466.3375
461.3625	466.3625
462.7625	467.7625
462.7875	467.7875
462.8125	467.8125
462.8375	467.8375
462.8625	467.8625
462.8875	467.8875
462.9125	467.9125
464.4875	469.4875
464.5125	469.5125
464.5375	469.5375
464.5625	469.5625

In addition to the channels listed above, the same low power designations apply to the channels 6.25 kHz immediately above and below these channels.

APPENDIX E

Public Safety

14 Channel, Coordinated, Low Power Pool

453.0375	458.0375
453.0625	458.0625
453.0875	458.0875
453.1125	458.1125
453.1375	458.1375
453.8875	458.8875
453.9125	458.9125
453.9375	458.9375
453.9625	458.9625
453.9875	458.9875
460.4875	465.4875
460.5125	465.5125
460.5375	465.5375
460.5625	465.5625

In addition to the channels listed above, the same low power designations apply to the channels 6.25 kHz immediately above and below these channels.